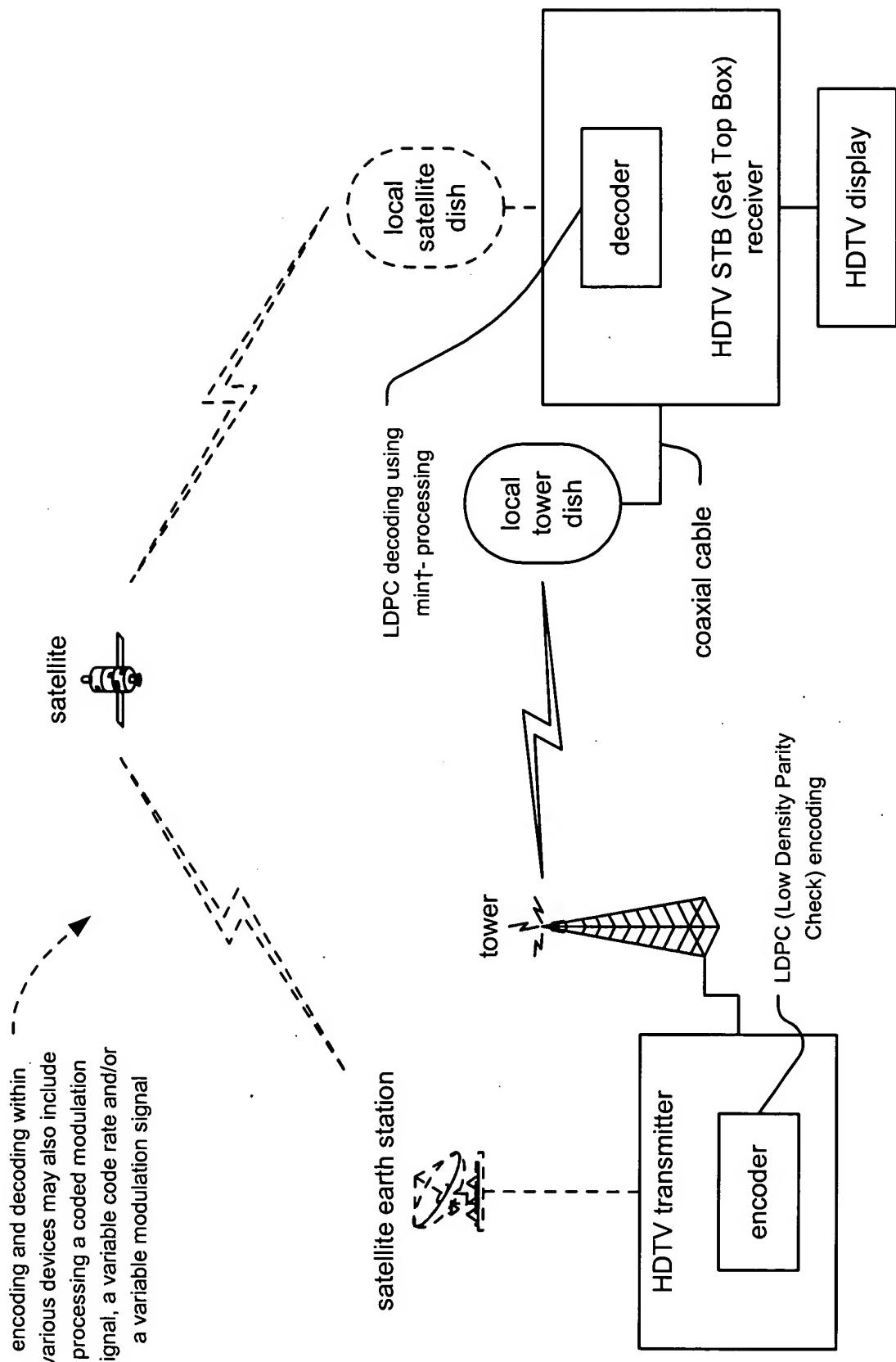


Fig. 1
satellite communication system



HDTV (High Definition Television) communication system

Fig. 2

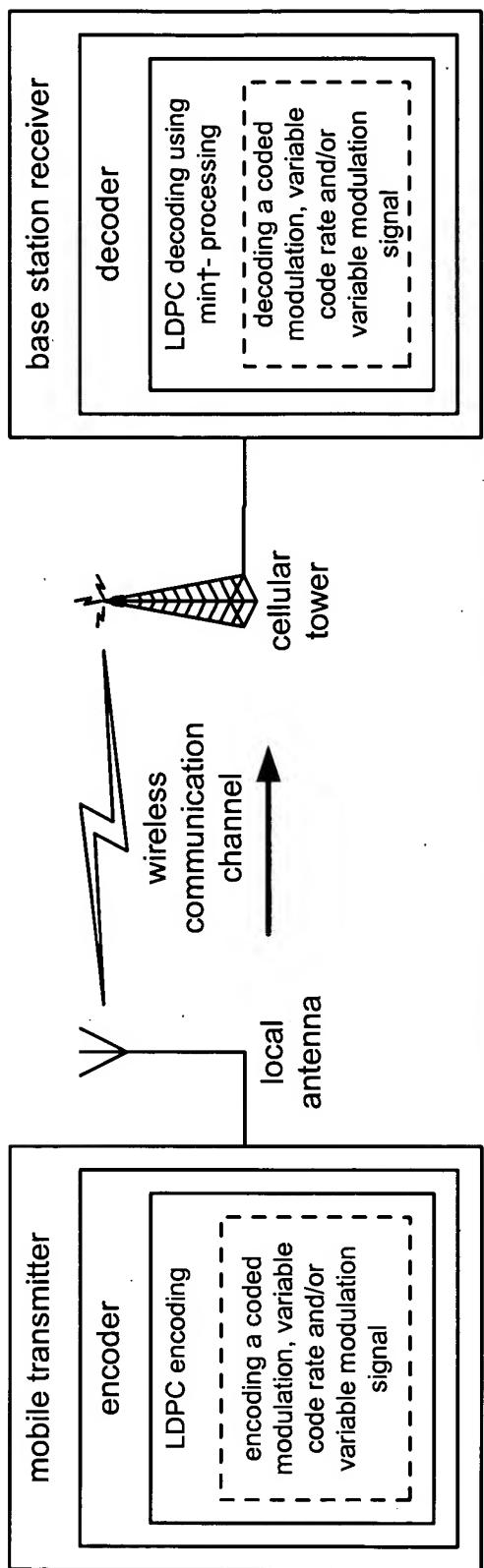


Fig. 3A

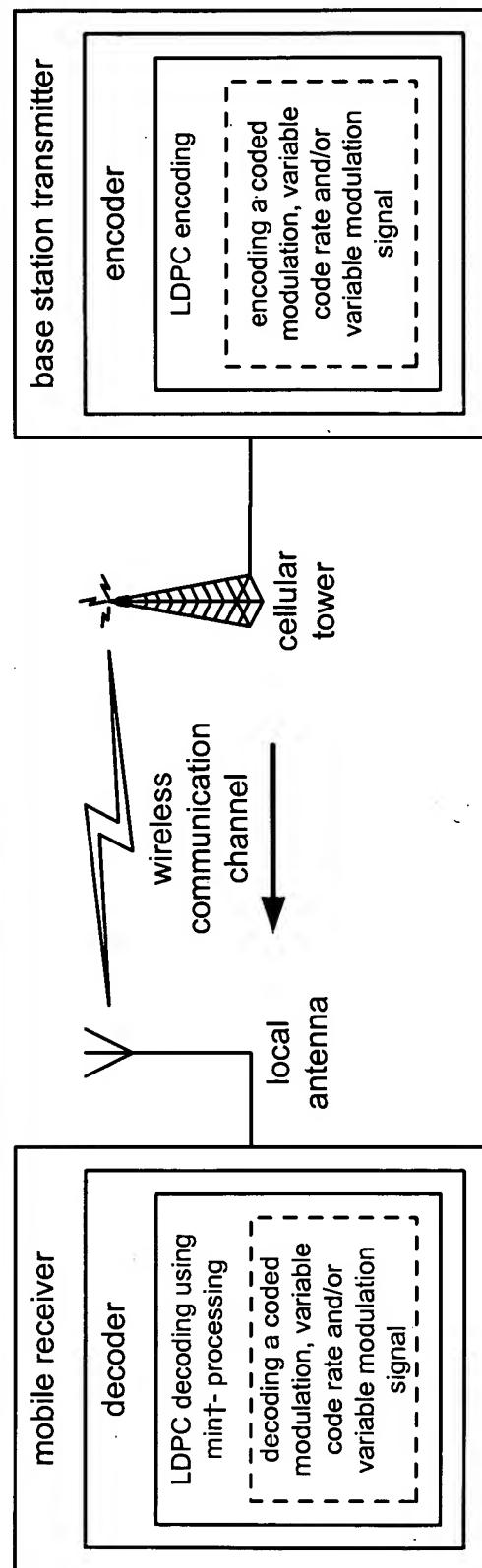
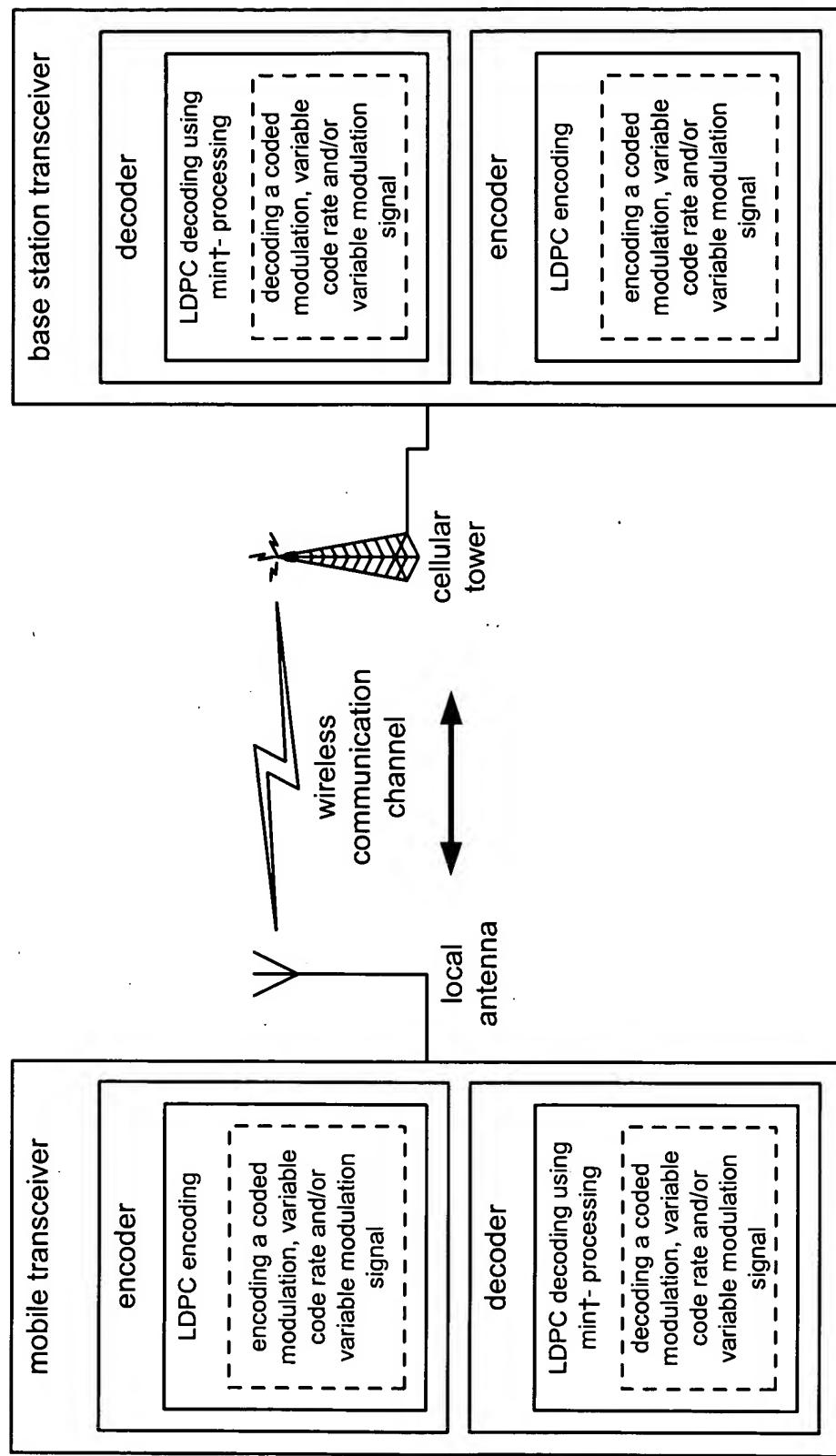
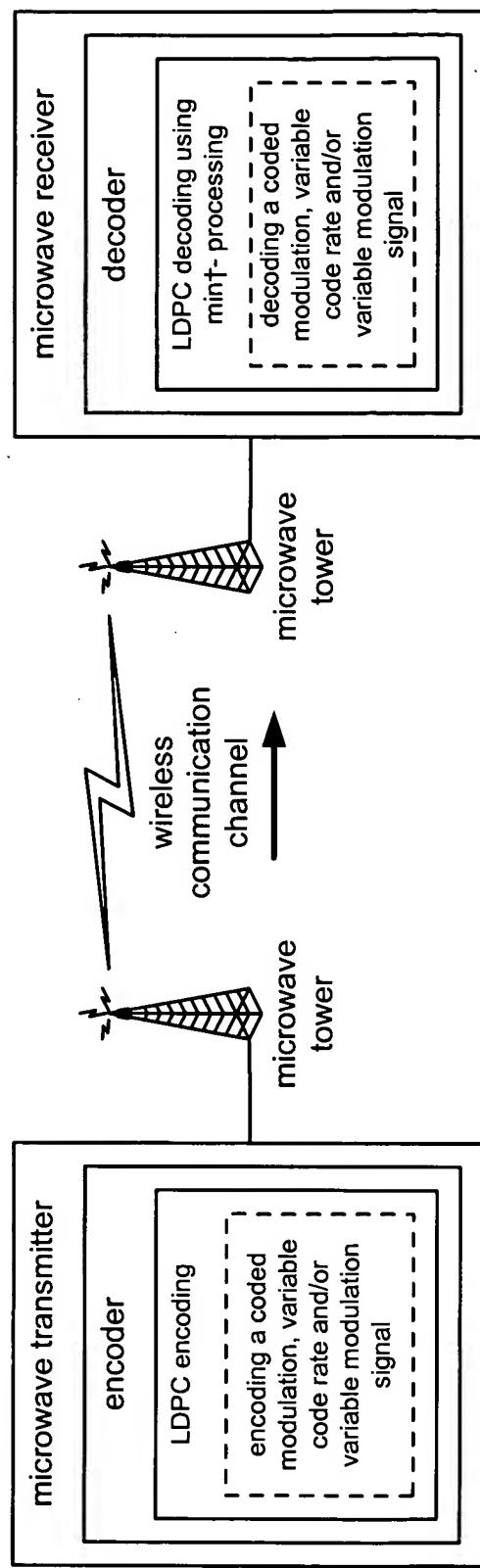


Fig. 3B



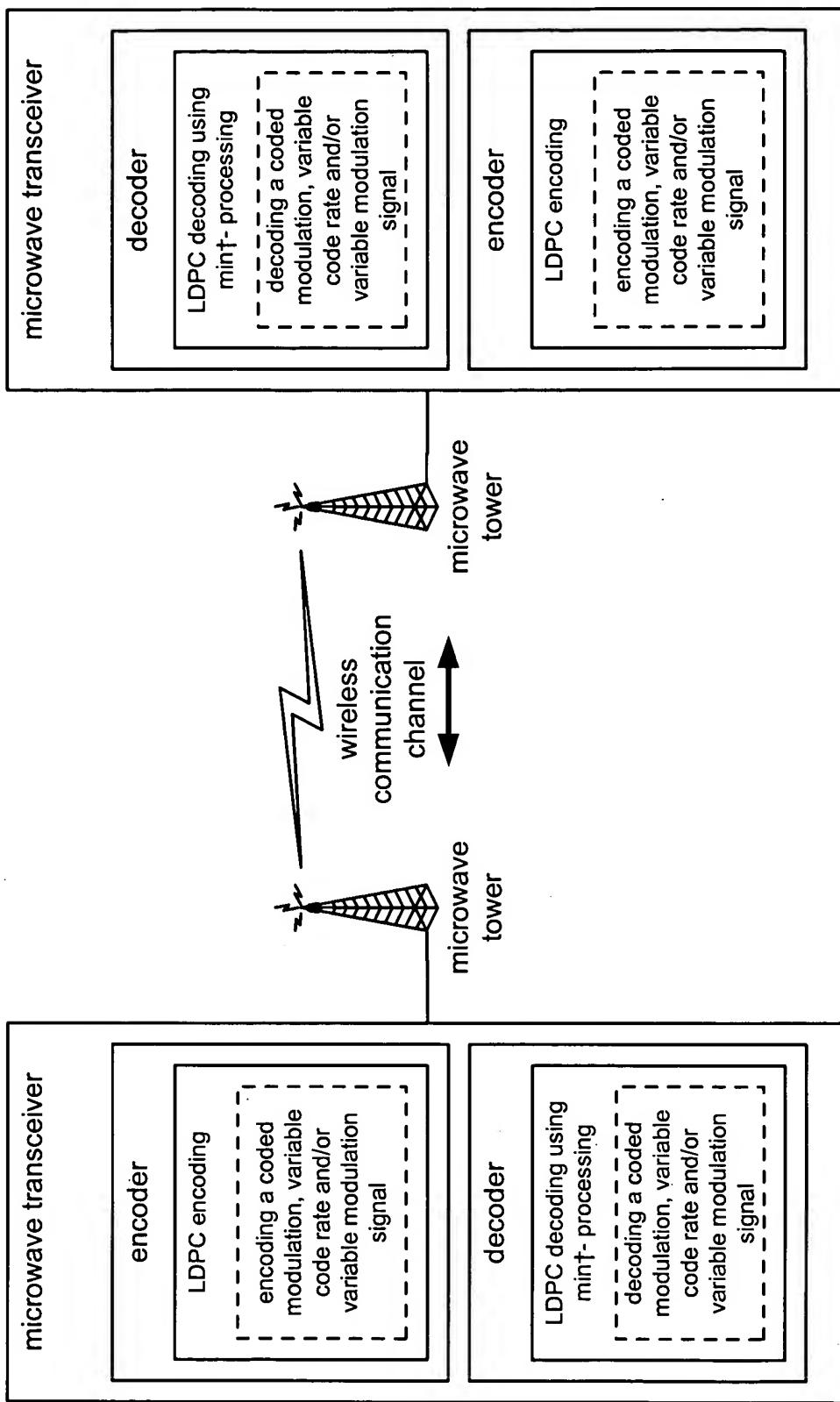
bi-directional cellular communication system

Fig. 4



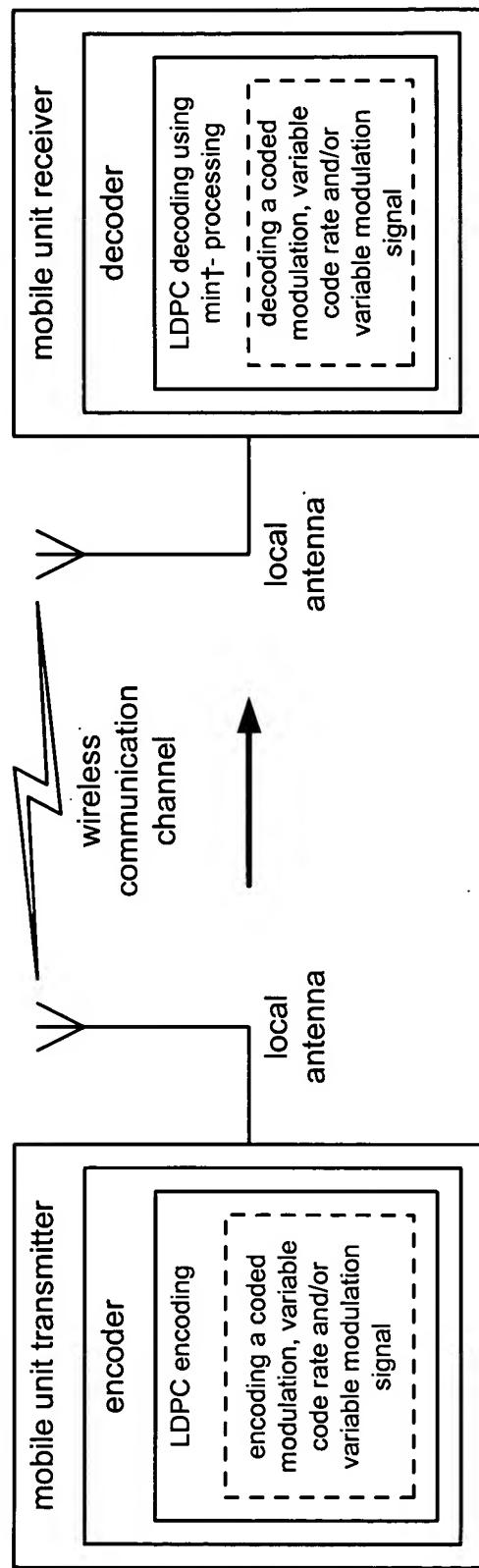
uni-directional microwave communication system

Fig. 5



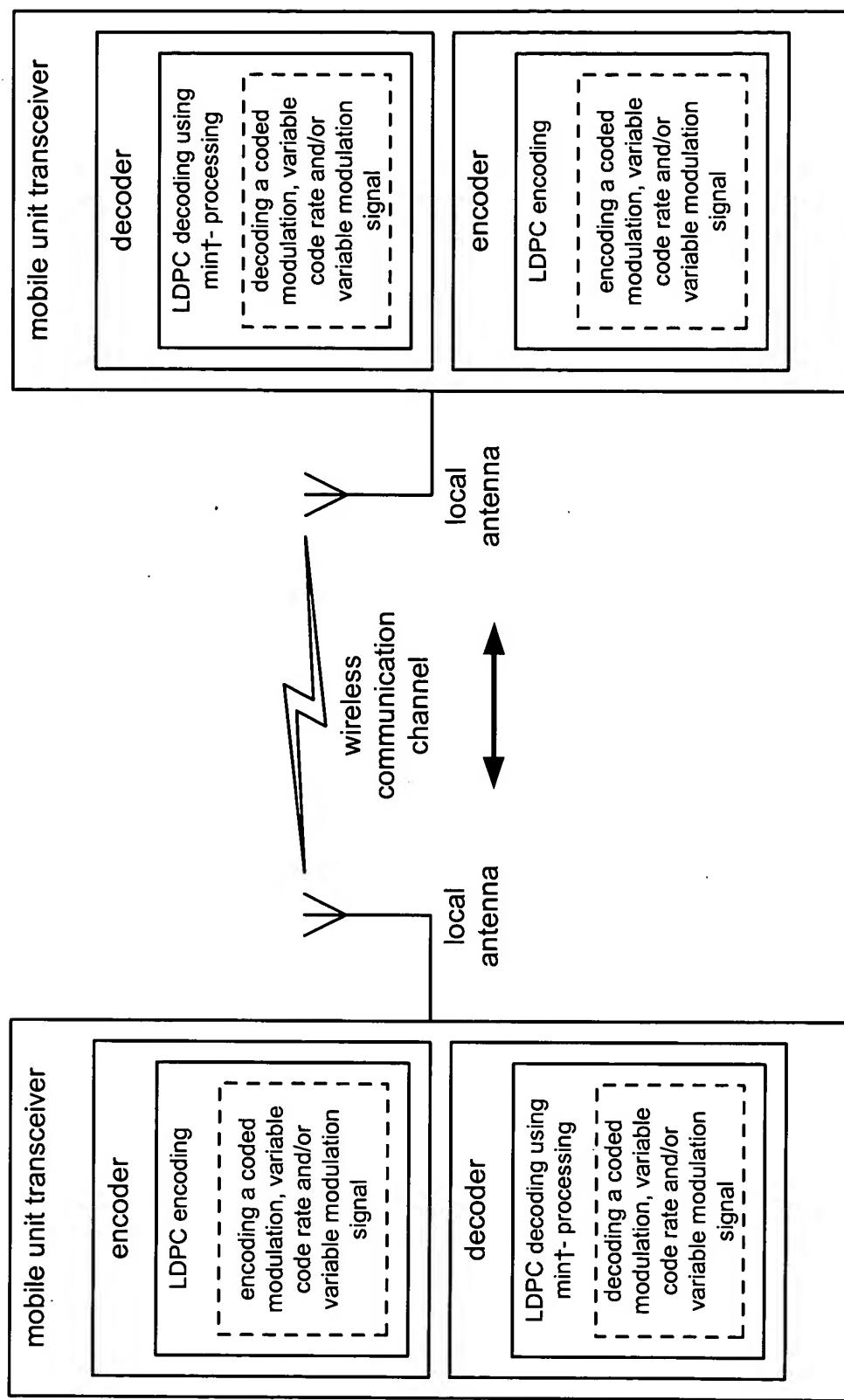
bi-directional microwave communication system

Fig. 6

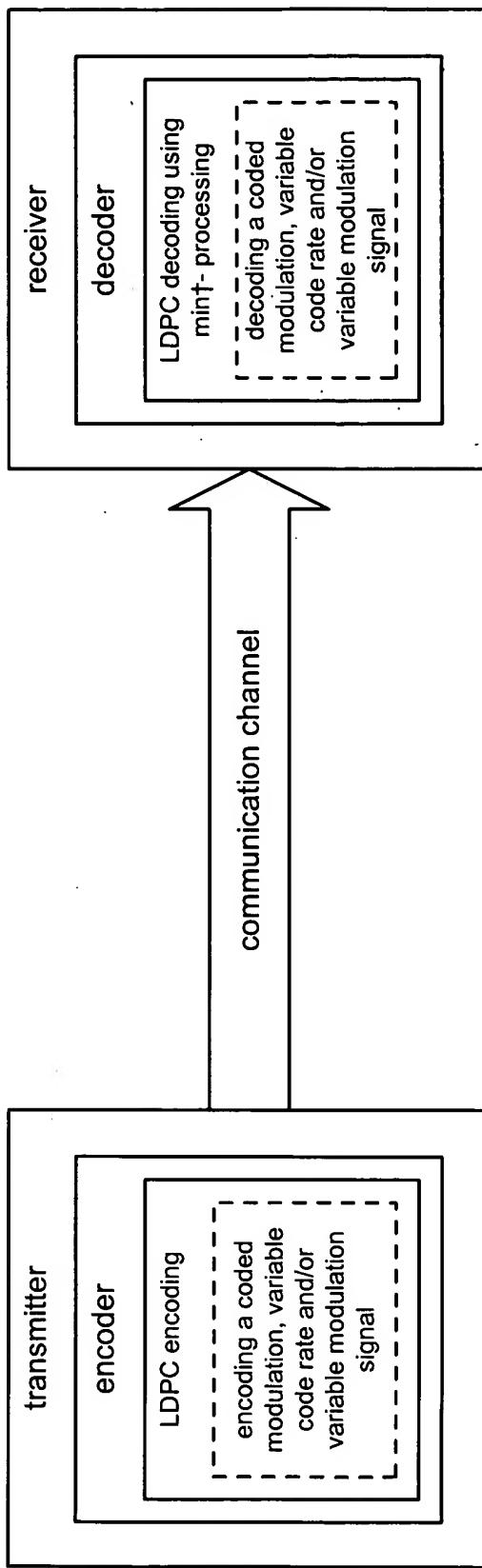


uni-directional point-to-point radio communication system

Fig. 7

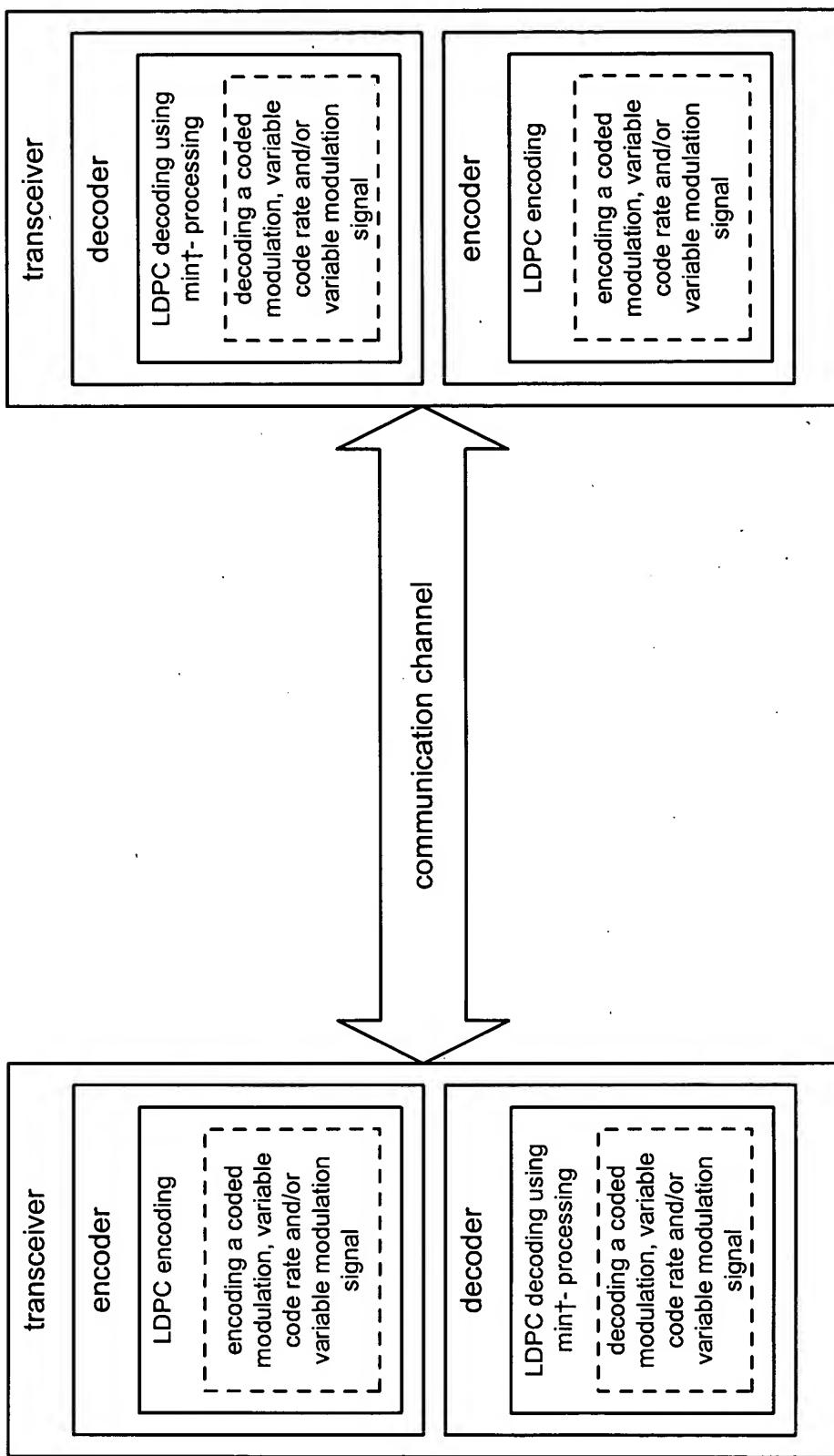


bi-directional point-to-point radio communication system
Fig. 8

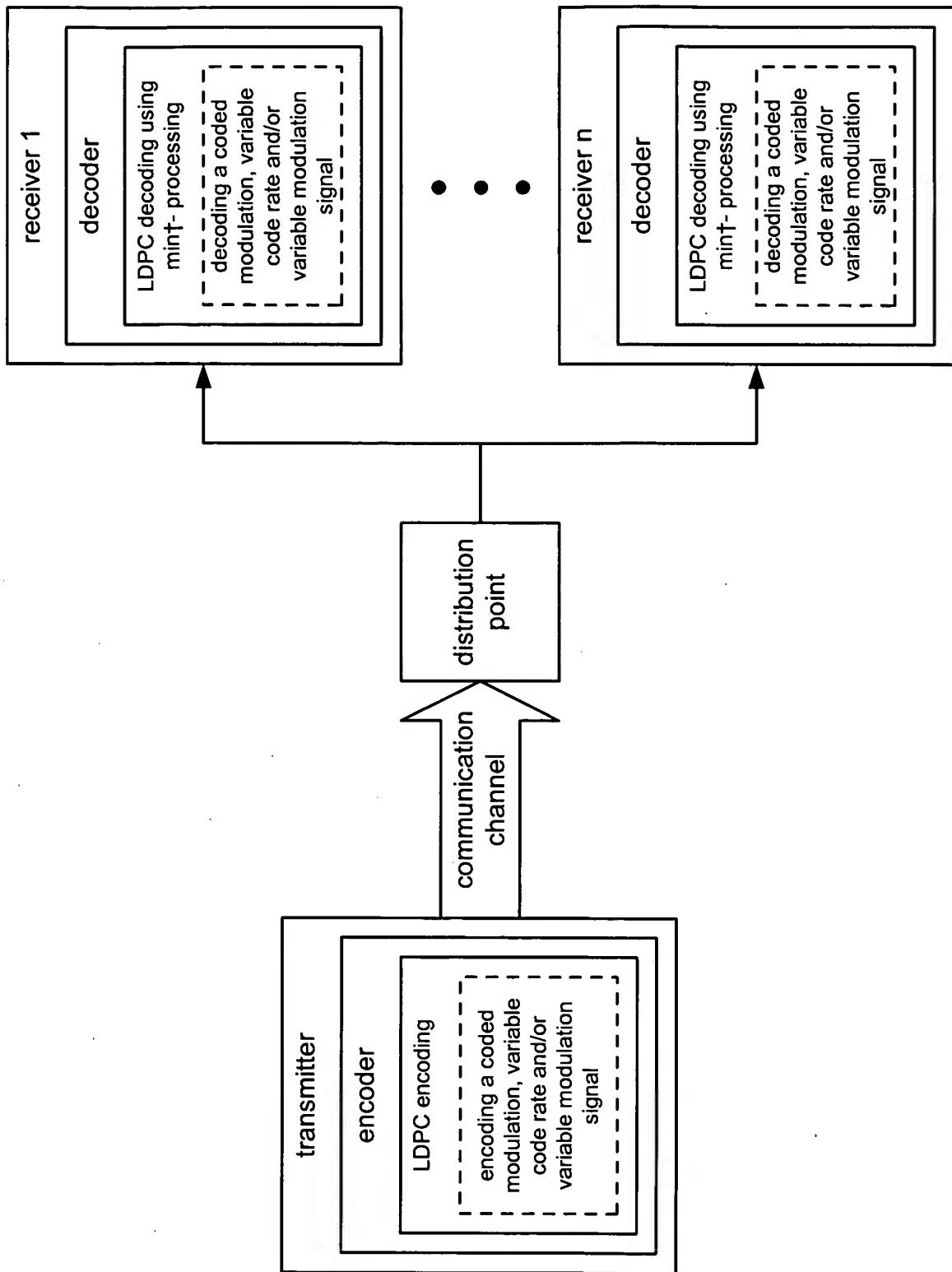


uni-directional communication system

Fig. 9

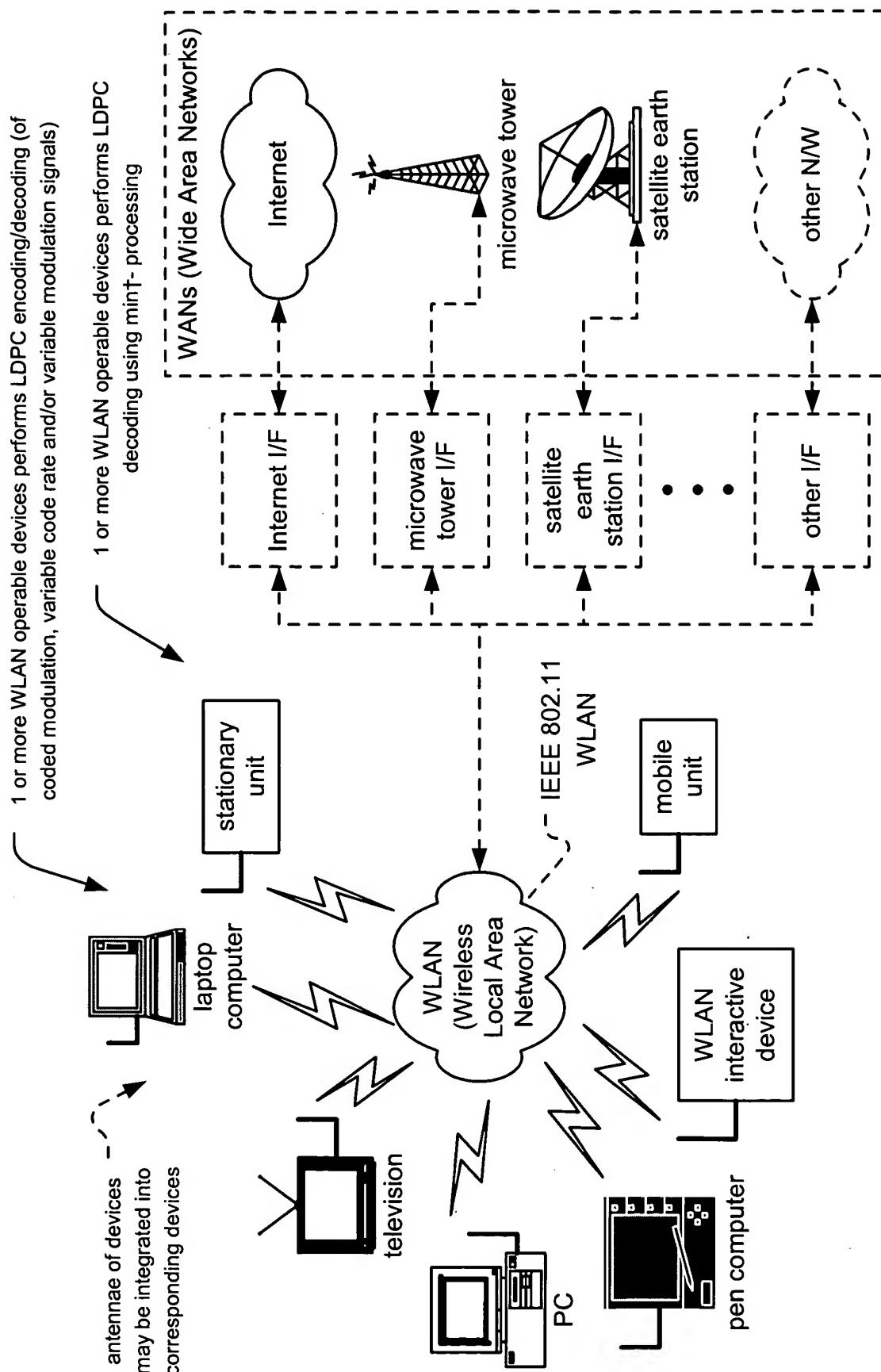


bi-directional communication system
Fig. 10



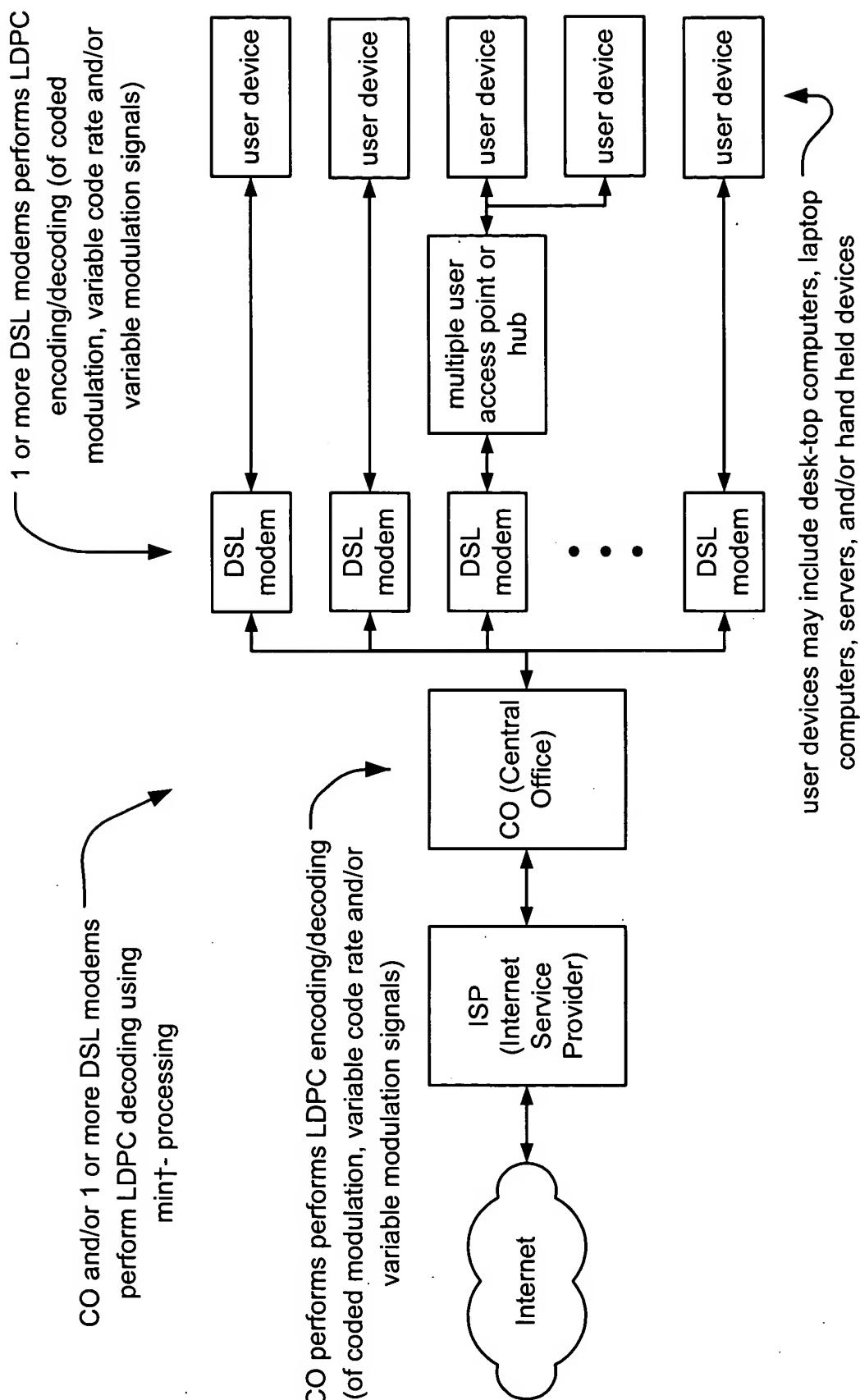
one to many communication system

Fig. 11



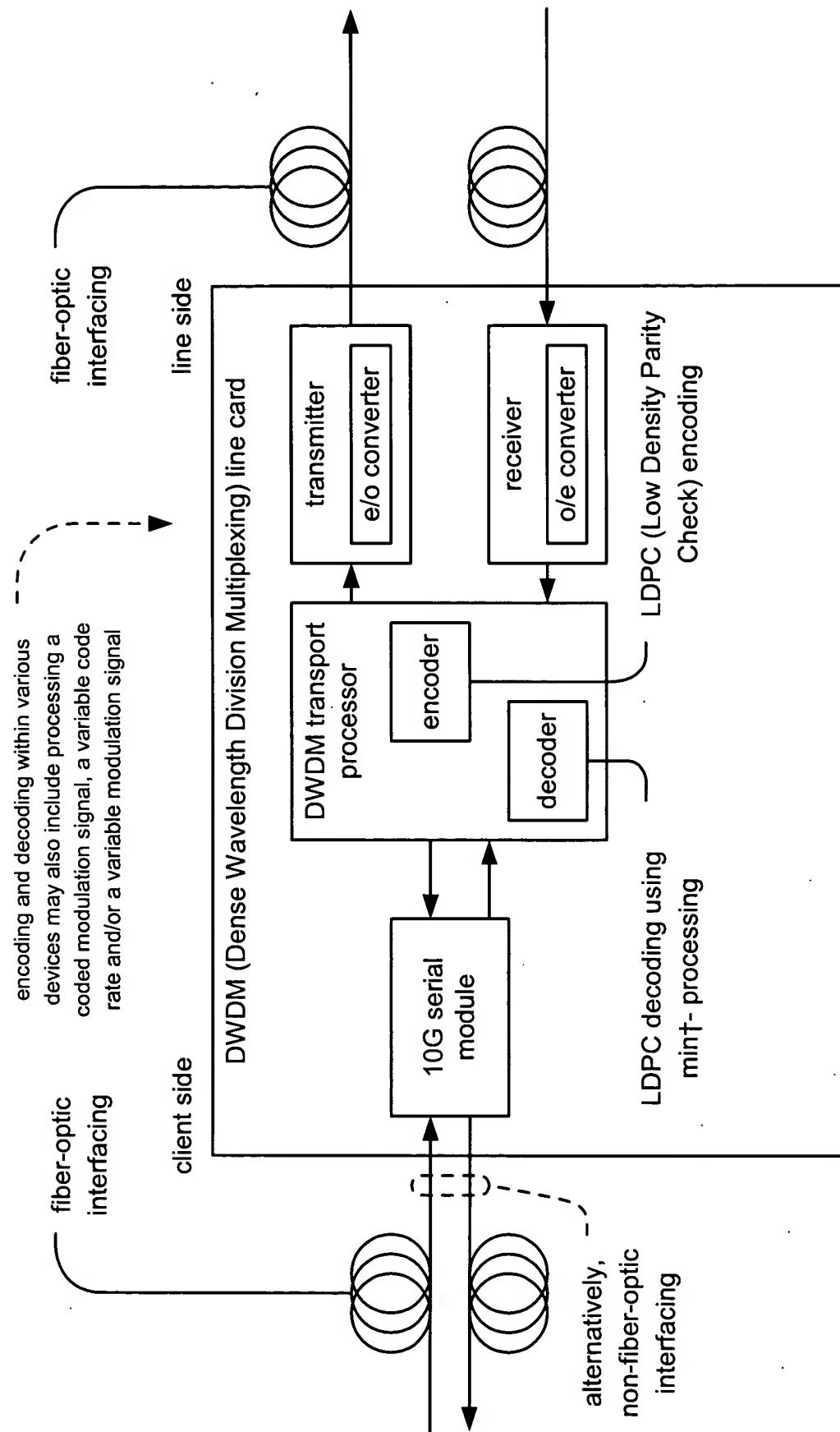
WLAN (Wireless Local Area Network) communication system

Fig. 12

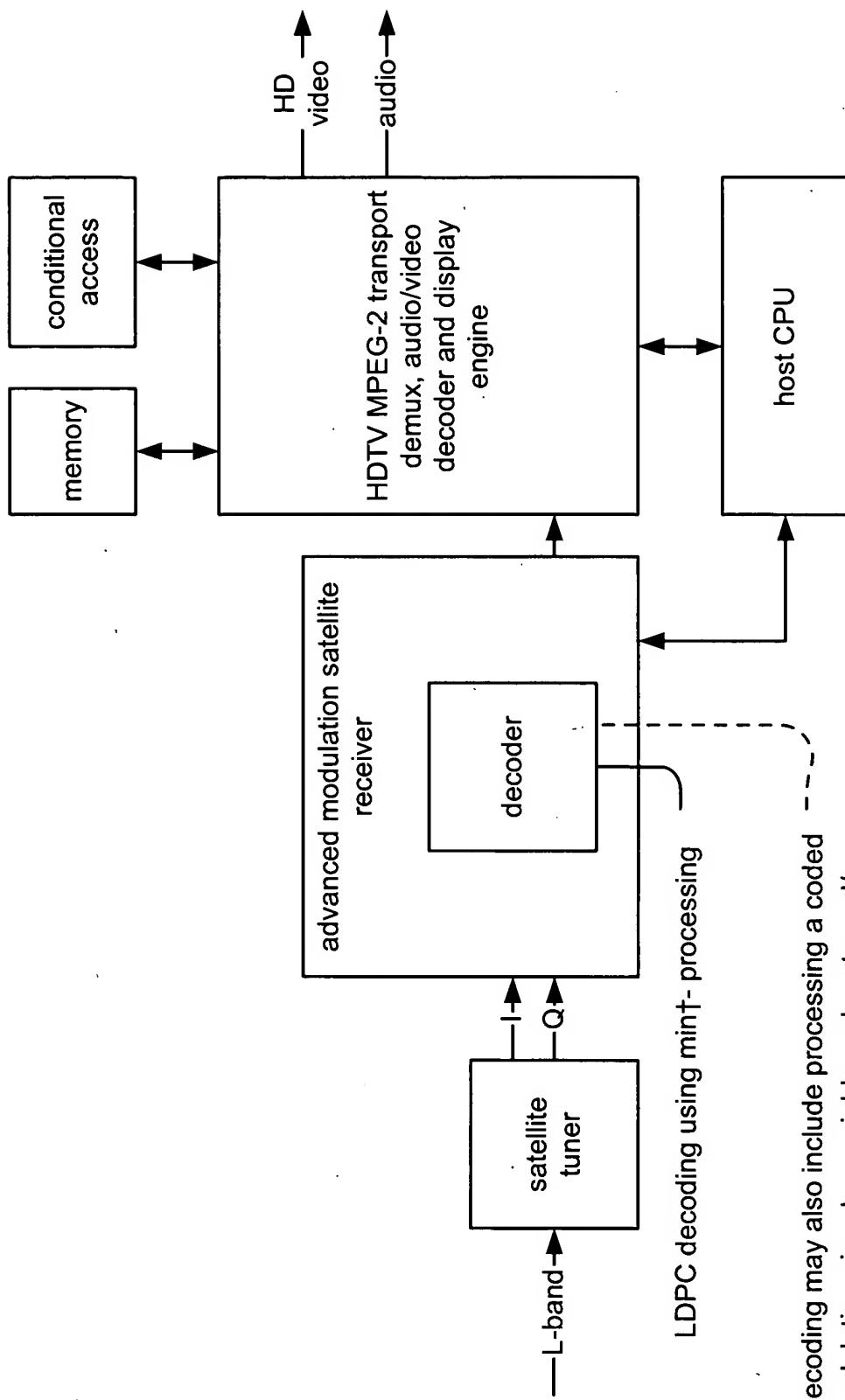


DSL (Digital Subscriber Line) communication system

Fig. 13



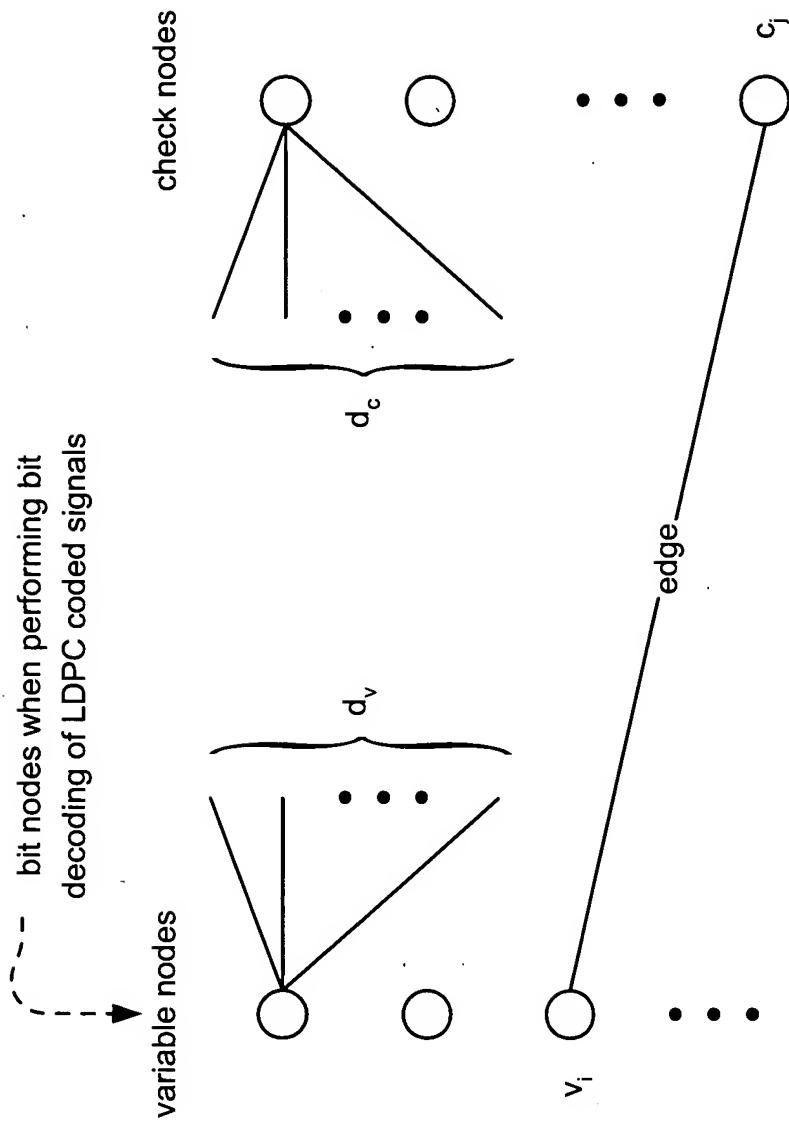
fiber-optic communication system
Fig. 14



decoding may also include processing a coded modulation signal, a variable code rate and/or a variable modulation signal

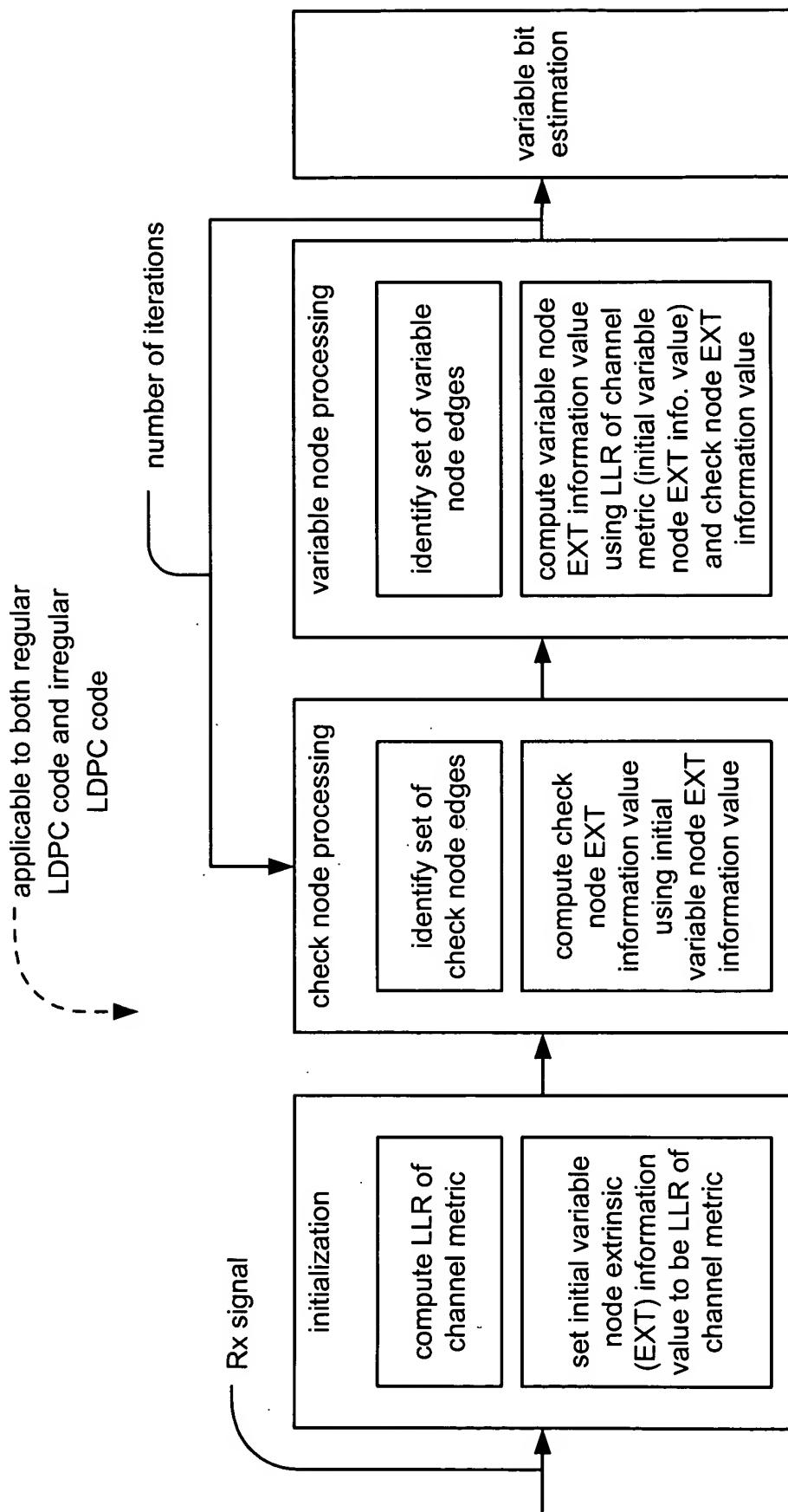
satellite receiver STB (Set Top Box) system

Fig. 15



LDPC (Low Density Parity Check) code bipartite graph

Fig. 16



LDPC (Low Density Parity Check) code LLR (Log-Likelihood Ratio) decoding functionality

Fig. 17

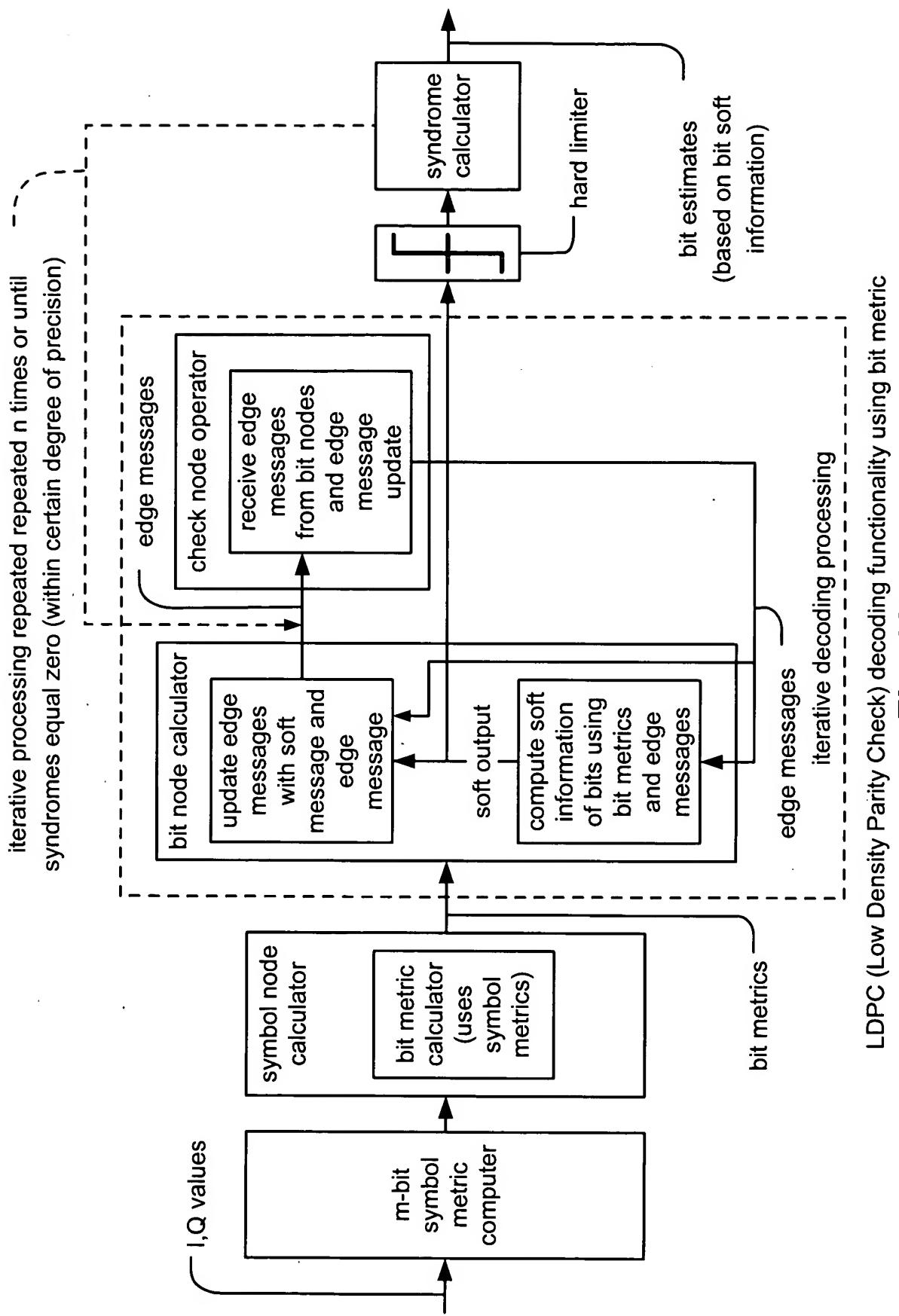
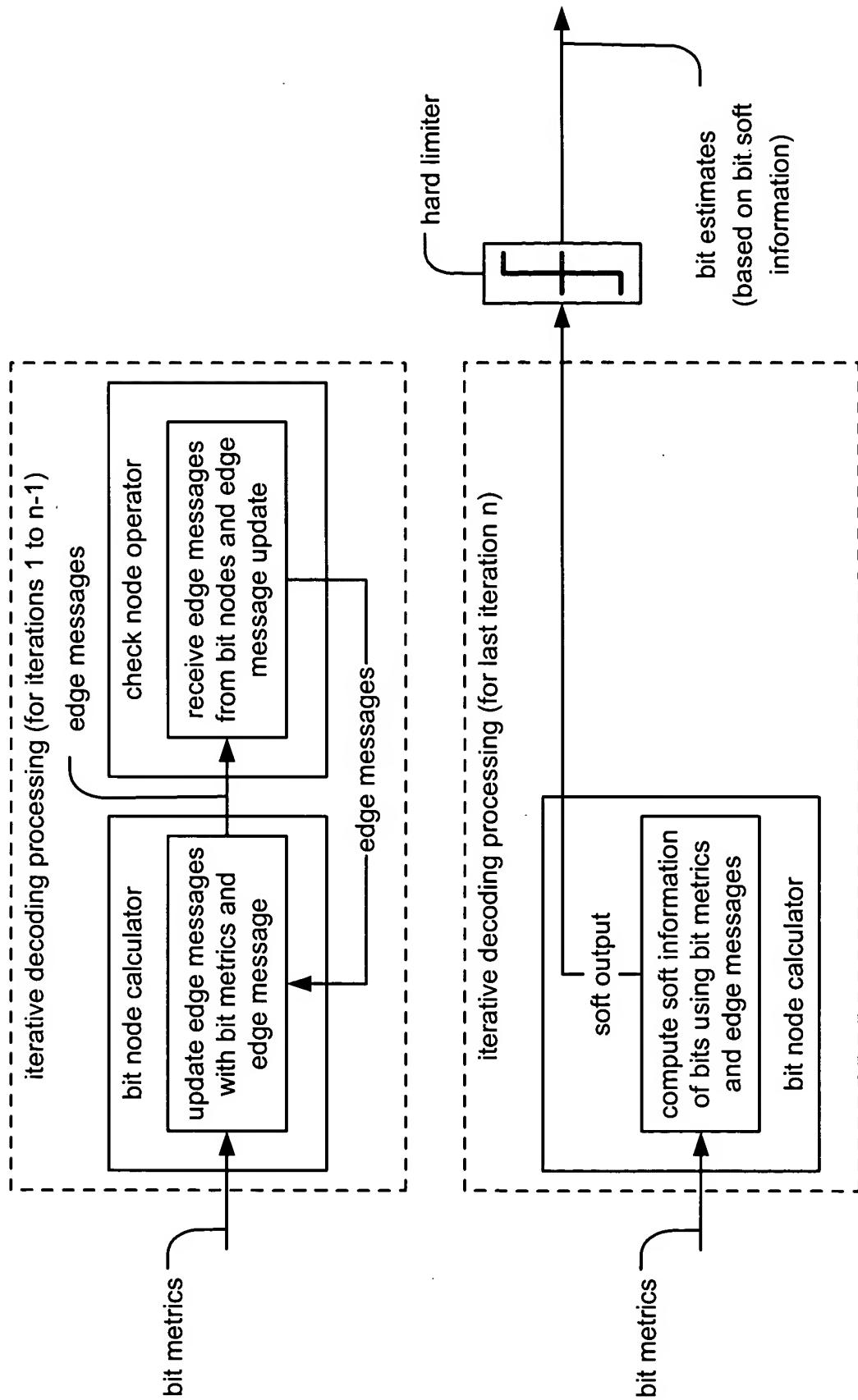


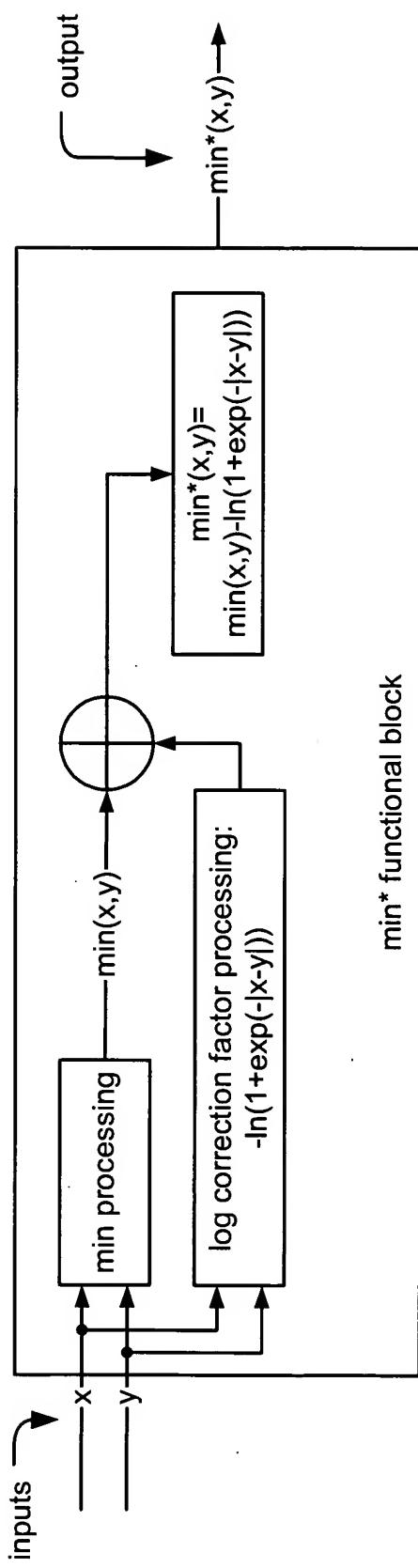
Fig. 18

LDPC (Low Density Parity Check) decoding functionality using bit metric iterative decoding processing

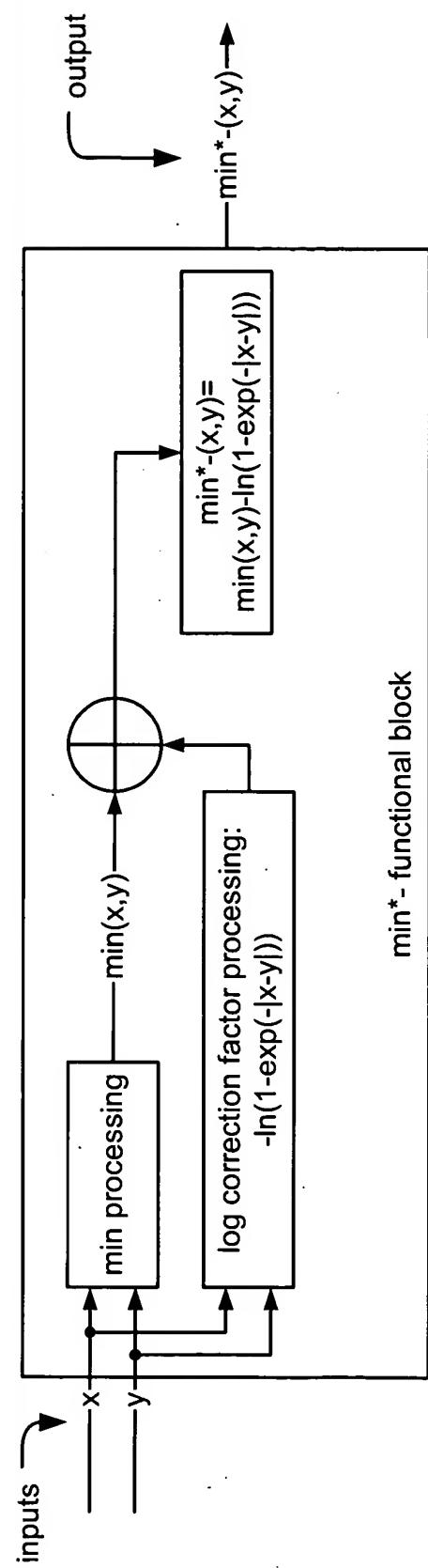


alternative LDPC decoding functionality using bit metric (when performing n number of iterations)

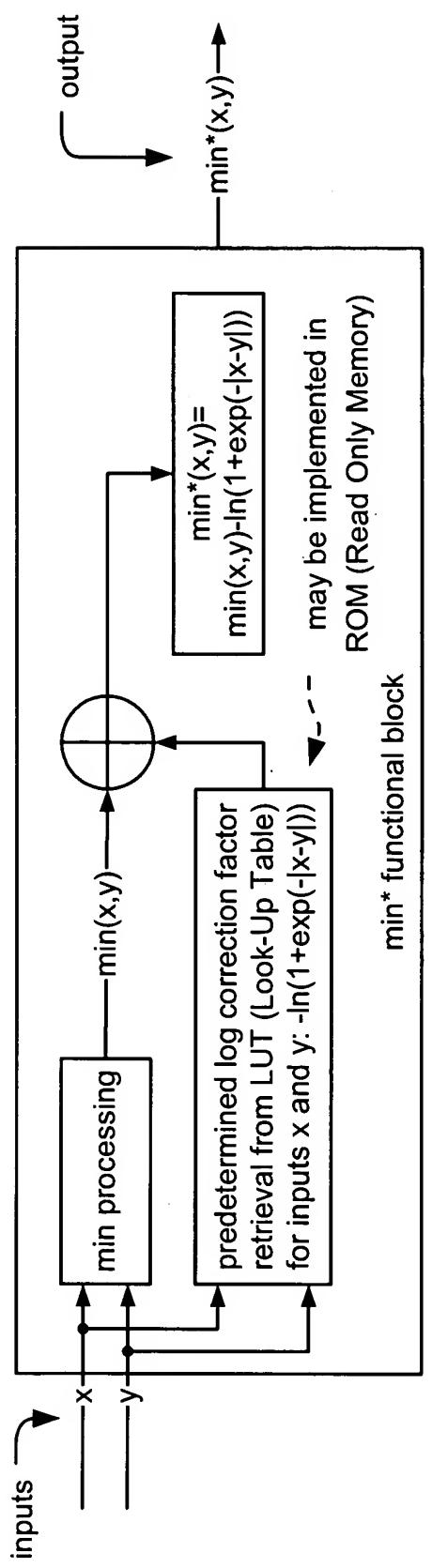
Fig. 19



processing of min^* functional block (performs operation of min^* operator)
Fig. 20A

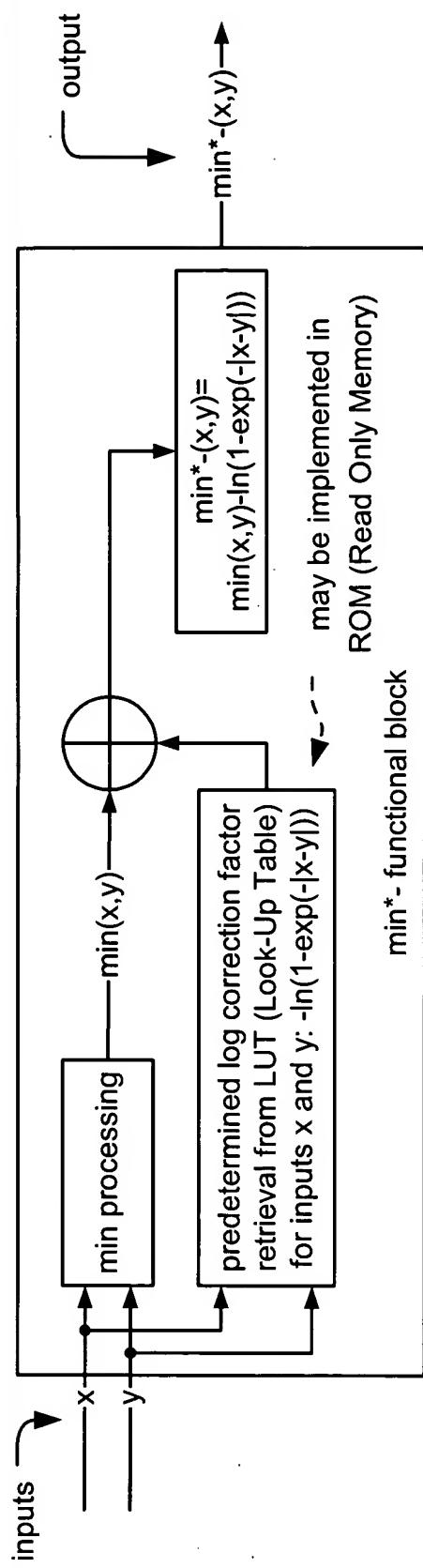


processing of min^* - functional block (performs operation of min^* - operator)
Fig. 20B



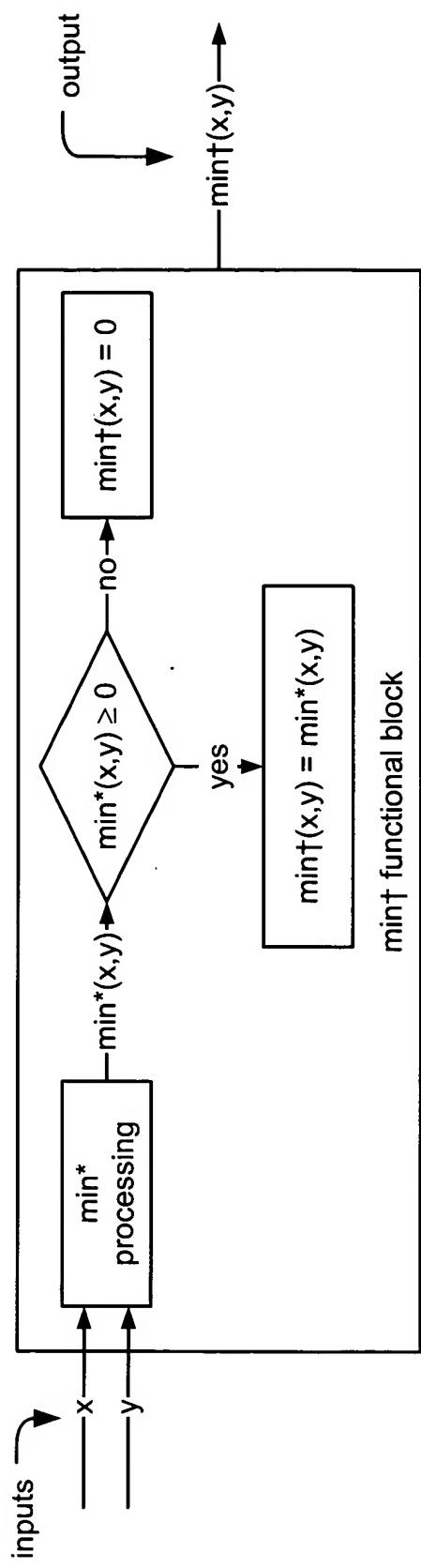
processing of min* functional block (performs operation of min* operator)

Fig. 21A



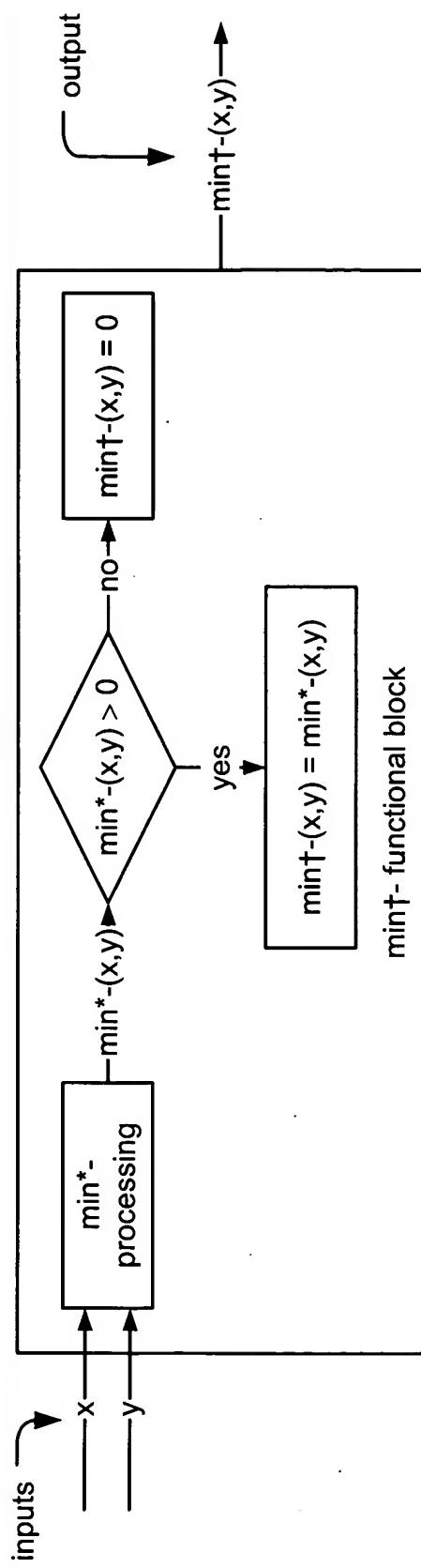
processing of min*-functional block (performs operation of min*-operator)

Fig. 21B



processing of $\text{min}†$ functional block (performs operation of $\text{min}†$ operator)

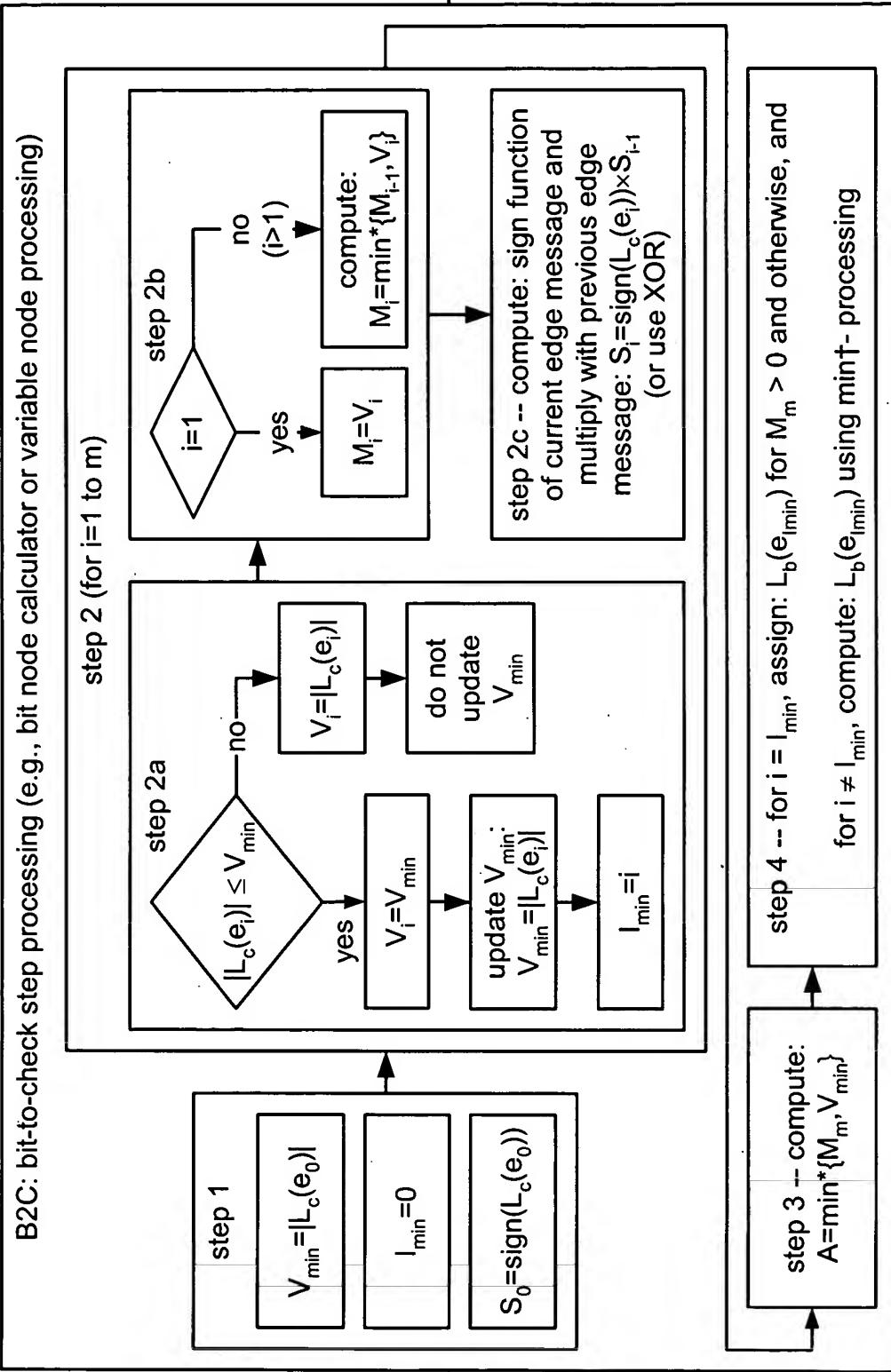
Fig. 22A



processing of $\text{min}†-$ functional block (performs operation of $\text{min}†-$ operator)

Fig. 22B

edge messages, $L_c(e)$, sent from initialization (or from C2B :check-to-bit step (e.g., check node operator or check node processing))



all meaningful LDPC code decoding using min†- processing (B2C: bit-to-check step processing)

Fig. 23

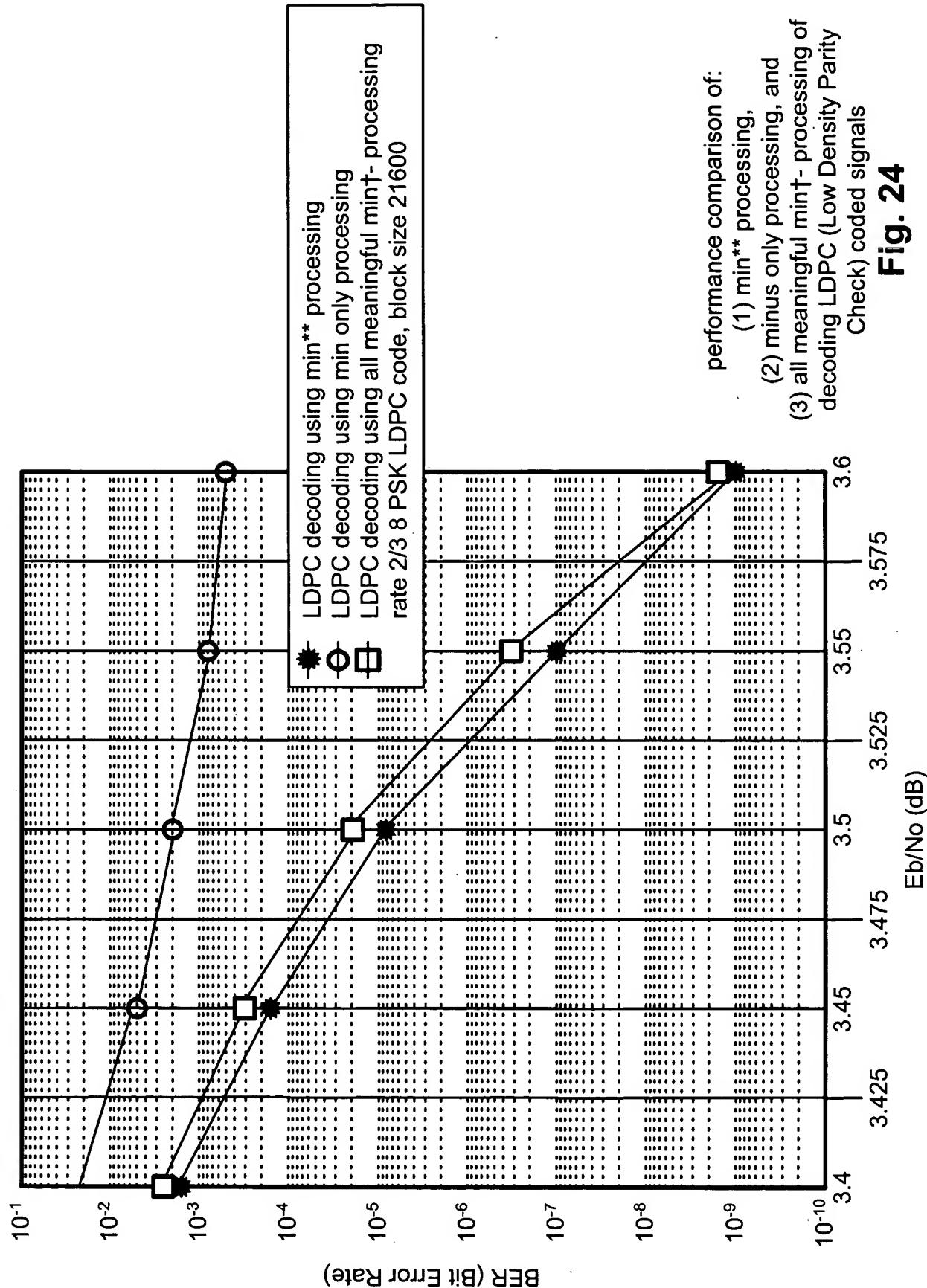
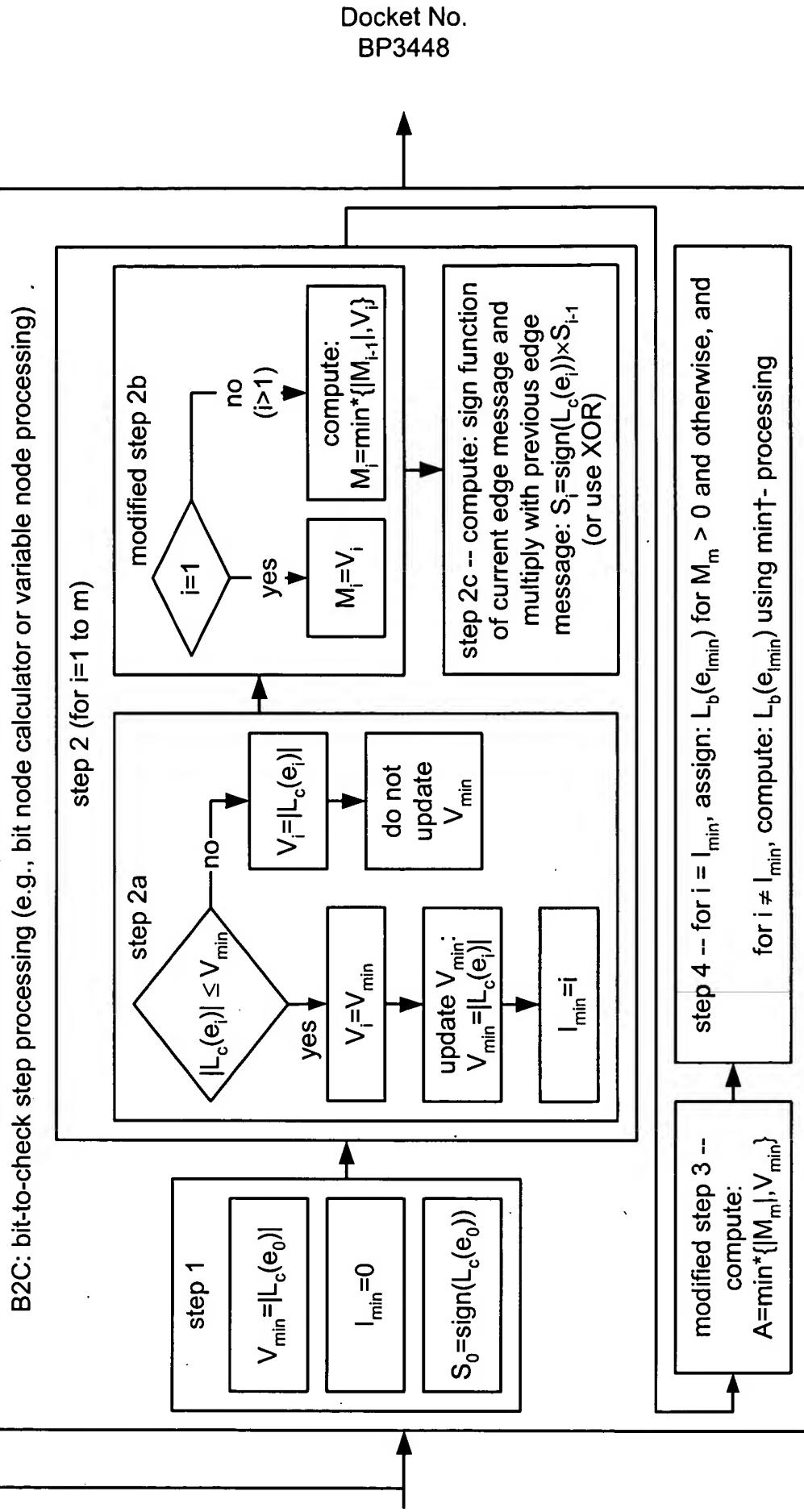


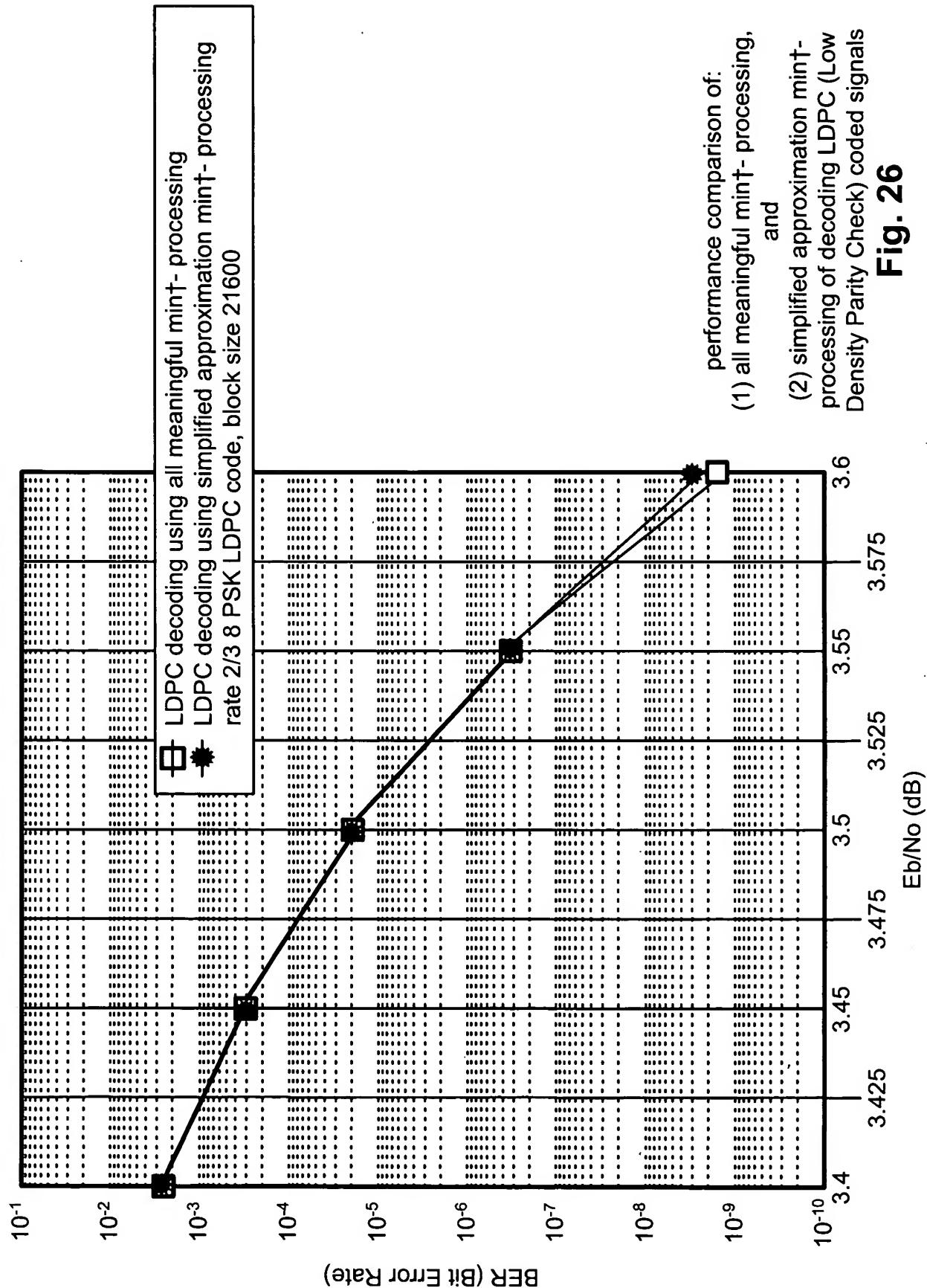
Fig. 24

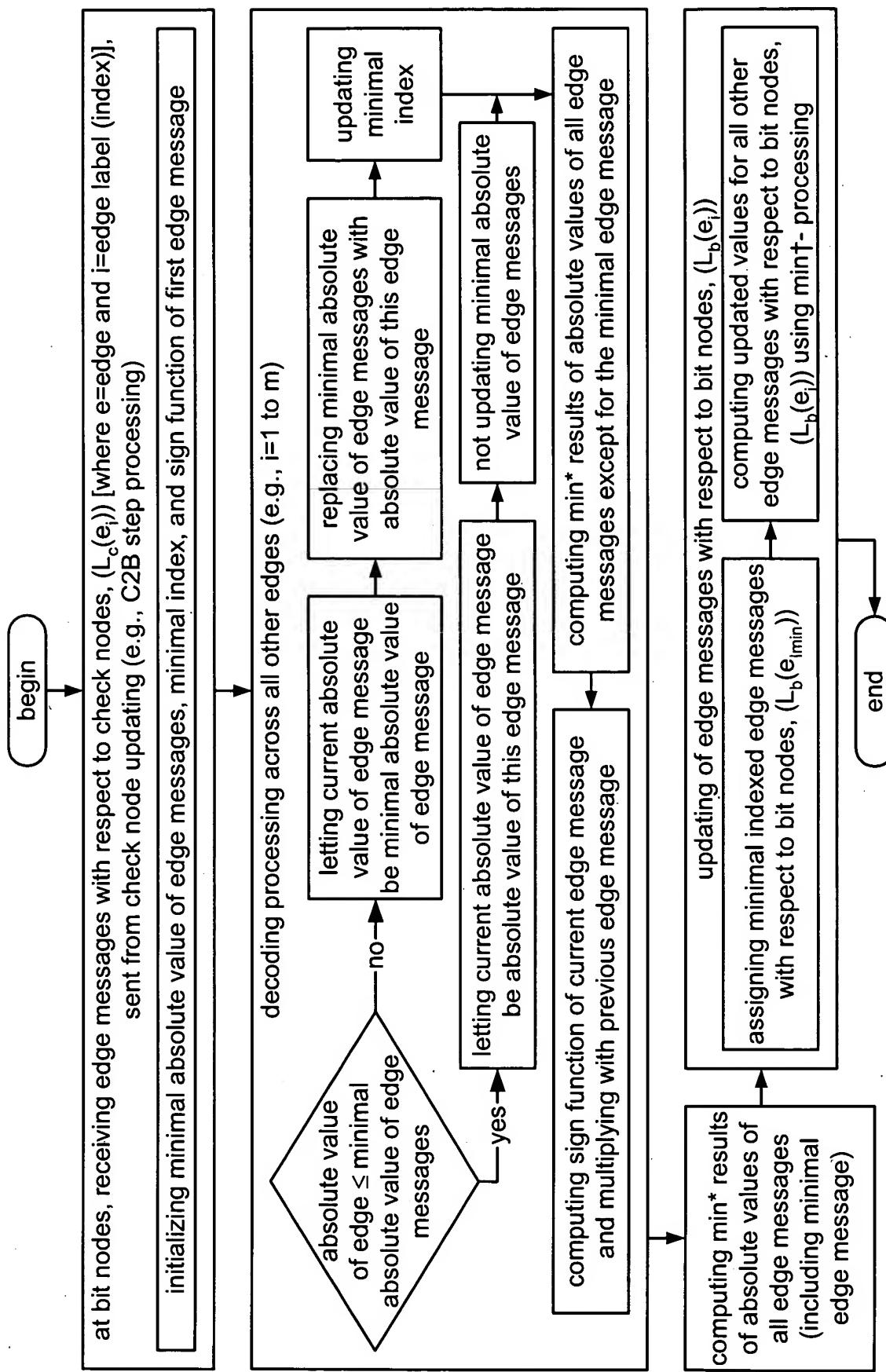
edge messages, $L_c(e_i)$, sent from initialization (or from C2B :check-to-bit step (e.g., check node operator or check node processing))



all meaningful LDPC code decoding using simplified approximation \min^\dagger -processing (B2C step processing)

Fig. 25





method for performing updating edge messages with respect to bit nodes (B2C: bit-to-check step processing)

Fig. 27